

Taller or Shorter?

Strand:	Measurement & Geometry
Topic:	Comparing two objects, using direct comparison, according to height (taller, shorter)
Primary SOL:	K.9 The student will compare two objects or events, using direct comparisons, according to one or more of the following attributes: height (taller, shorter), weight (heavier, lighter), temperature (hotter, colder), volume (more, less), and time (longer, shorter).
Related SOL:	None

Materials

- Children’s book about measuring height
- Tall drinking cup and short drinking cup
- Strips of adding machine tape cut somewhat longer than the tallest student in the class
- Sticky tape
- Sheets of butcher paper cut somewhat longer than the tallest student in the class
- String
- Scissors

Vocabulary

compare, height, shorter, taller

Student/Teacher Actions: What should students be doing? What should teachers be doing?

1. Formally introduce the concept of measuring height by reading aloud a relevant piece of children’s literature. Place a tall drinking cup and a short drinking cup next to each other in a place where everyone can see. Ask: *Which cup is taller? Which cup is shorter? How do you know?* Explain that height is the distance from the bottom, or base, of something to the top. Explain that objects can be compared by placing them next to each other to see which is taller and which is shorter. Move one cup to the floor and one to a table and ask: *Is it easy to tell which is taller and which is shorter now? Why not?*
2. Call two students to the front of the class, but have them stand far away from each other. Ask: *How could we compare the heights of these students?* Let students share their ideas, and then have the students stand back to back at the front of the class. Have the class compare the heights of the two students, using the comparison words *taller* and *shorter*. Repeat the activity until everyone has been given a turn. At one point during this comparison activity, ask one student to stand on a chair and another to stand on the floor, but right next to the chair. Ask: *Can we easily compare their heights? Why or why not? What do we need to do to be able to compare these students?*
3. Distribute strips of adding machine tape. Group students into pairs, and have one partner use a strip of tape to match the height of the other partner. (You will need to demonstrate how to line up the tape with the bottom of the feet.) Instruct students to tear the paper as close to the height as possible. Then, have the partners reverse roles.

Once students have put their names on the tapes, gather the students together in a group, and ask them to order the tapes by height. This works smoothly if students line up along a wall from tallest to shortest and then place their tapes in order on the wall, using sticky tape. Lead students in making comparisons, using the terms *taller* and *shorter*. You may want to provide sentence frames, such as: ___ is taller than _____. _____ is shorter than _____. I know this because _____. (You might wish to emphasize that every student in the class is growing at different rates and that the shorter people might become the taller ones in a year or so.)

4. To close the lesson, ask students to think about how height and length are the same and how they are different. Discuss their ideas.

Assessment

- **Questions**
 - What did you think about in order to compare the two strips of tape?
 - Name one person who is taller than you. Name one person who is shorter than you.
- **Journal/writing prompts**
 - Draw something that is taller than you. Draw something that is shorter than you.
 - Draw a picture of your family members in order from the taller members to the shorter members.
- **Other Assessments**
 - Place students in pairs, and have partners trace each other's outline, using sheets of butcher paper. Once the tracing is done, ask comparison questions to determine whether students understand the terms *taller* and *shorter*.
 - Give each student a precut piece of string and a piece of paper divided into fourths. Have students use their strings to find four objects in the classroom that are taller than their piece of string. Have them draw the objects and label their drawings. Then, have them find four objects that are shorter than their piece of string, draw these objects on the other side of their papers, and label. If time permits, give them the challenge of finding one object that is the same height as their piece of string. This object can be drawn and labeled on another sheet.

Extensions and Connections (for all students)

- Let students identify items throughout the classroom according to these three categories: Taller than Me, The Same Height as Me, and Shorter than Me. This can also be done at home.
- Students can make a train of linking cubes. Then, they may go around the room and find items that are taller than/shorter than their train of cubes.

Strategies for Differentiation

- Point around the room to give extra examples of tall items and short items.
- The same activity can be done in a small group with the teacher to assist English Language Learners (ELLs) who may not understand the vocabulary.

Mathematics Instructional Plan – Kindergarten

- Give students a tower of linking cubes. Ask them to make a tower that is taller and a tower that is shorter.
- Use freestanding objects to directly compare heights.
- Use sentence frames to aid in comparisons for students who need language support.

The following pages are intended for classroom use for students as a visual aid to learning.

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